

SANDPIPER SHORES (PWS #1090119) SOURCE WATER ASSESSMENT REPORT

October 2, 2002



State of Idaho Department of Environmental Quality

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Source Water Assessment for Sandpiper Shores

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality (DEQ) is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your drinking water source, sensitivity factors associated with the source, and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for Sandpiper Shores (PWS# 1090119)*, located in along the northern shore of Priest Lake in Bonner County, Idaho, describes the public drinking water system, the associated potential contaminant sources located within a 1,000 foot boundary around the drinking water source, and the susceptibility (risk) that may be associated with any potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

The Sandpiper Shores drinking water system consists of one well, designated Well #1. The well was drilled in 1992 to a depth of 160'. The well is located just 30' west of a wetland that is saturated with water year-round. The wellhead was sealed to 18' with bentonite, but at the time of the last sanitary survey (1997) the wellhead was flush with ground level. The wellhead must be extended to at least 18' above ground. The well casing is six inches in diameter and .250" thick. The Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works (1997)* during construction. Table 1 of the *Recommended Standards for Water Works (1997)* states that 6-inch steel casing requires a thickness of 0.280 inches. Well 1 uses 0.250-inch thick casing. A stainless steel well screen follows the well casing. The screen was set from 130-150' in a water-producing layer of fine sand. Due to the well's location next to a boat channel, the well is located within the 100-year floodplain. The well received a moderate system construction score.

The well was assigned a moderate hydrologic sensitivity score. It is located in an area of poorly drained soils, which may act as a barrier to contaminants moving underground. However, these soils also allow water to remain standing on the ground's surface. The standing water may be a source of microbial contamination. A survey completed in 2002 to determine whether or not the well is under the direct influence of surface water (GWUDI) revealed that the well will require further testing to rule out surface water influence. The water system may contact Mike Nelson of Panhandle Health District 1 for further information.

The well received low potential contaminant/land use scores in all chemical categories except for microbial contaminants. The well was automatically assigned a high score in this category due to the presence of surface water within the well's sanitary setback distance of 50'. In addition to the surface water there is a sewage lagoon located approximately 500' from the wellhead. A copy of the susceptibility analysis for your system along with a map showing any potential contaminant sources is included with this summary. Information regarding the potential contaminants within the 1,000-foot boundary have been summarized and included in Table 1.

Table 1.

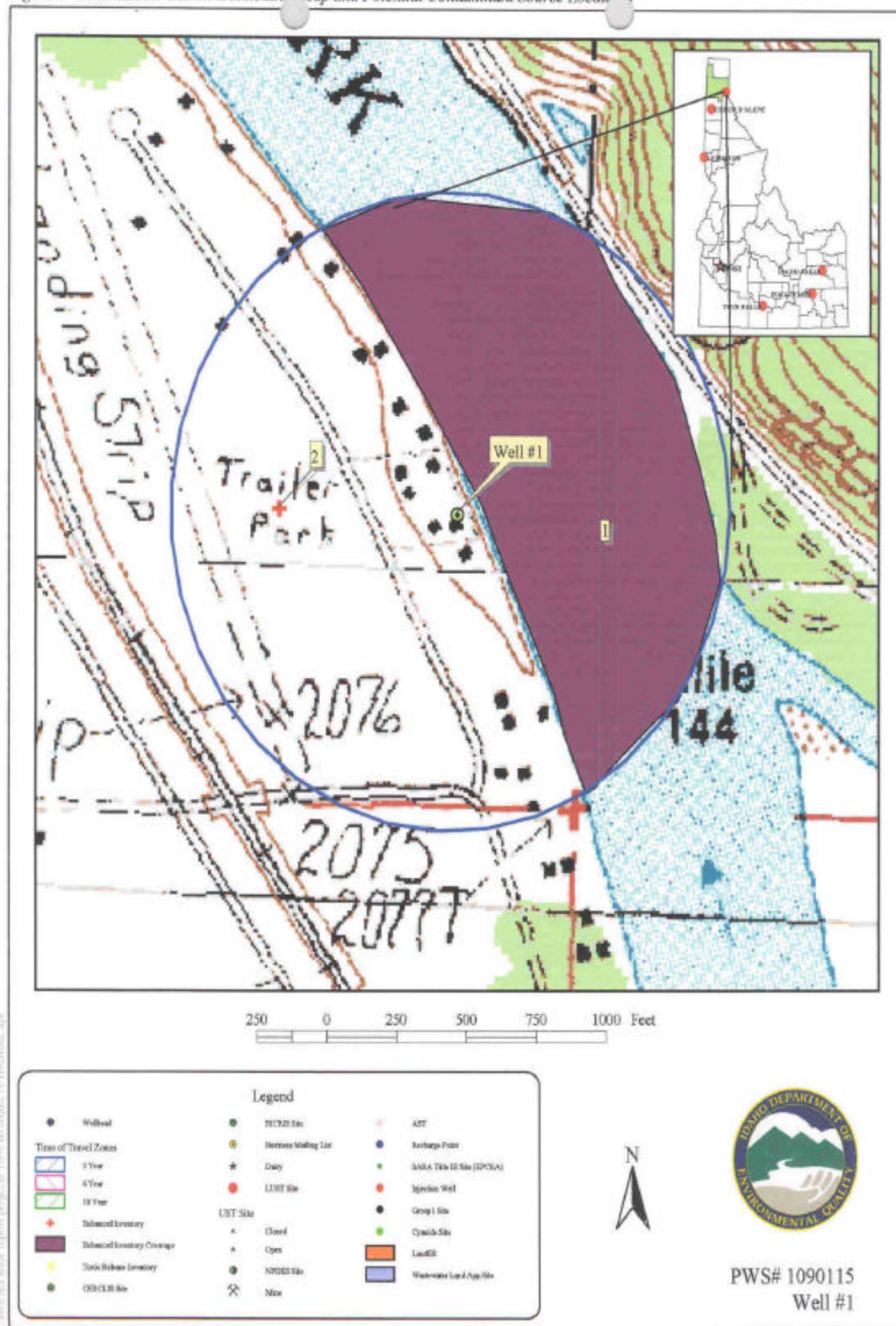
SITE #	Source Description	Source of Information	Potential Contaminants ¹
1	Sewage Lagoon	Enhanced Inventory	IOC, Microbial
2	Surface Water	Enhanced Inventory	Microbial

¹IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Sandpiper Shores samples for total coliform quarterly and has an excellent sampling history. The last positive sample was collected on 9/11/01. Nitrate is monitored annually and nitrite is monitored every nine years. Measurements for these contaminants range from 0 to .046 mg/L, well below the maximum contaminant level of 10.0mg/L.

The well received an overall susceptibility ranking of moderate in all chemical categories with the exception of the microbial category for which the well received a high score as noted above. A copy of the susceptibility analysis for your system along with a map showing any potential contaminant sources is included with this summary.

Figure 1. Riverlake RV Resort Delineation Map and Potential Contaminant Source Locations



This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Sandpiper Shores should focus drinking water protection activities on maintaining current water quality. The water system should develop a drinking water protection plan that addresses public education, potential contaminant site management measures, and contingency planning. Local residents should be made aware of the location of the well and the location of the well’s source water assessment areas. They should be advised of methods for the proper disposal of household hazardous wastes in these areas and of septic system maintenance procedures. The sewage lagoon located within the well’s source water assessment area should be monitored regularly for proper operation to reduce the risk of contamination. And, since the well is located in an area of standing water, the wellhead should be raised to at least 18’ above ground level as requested in the water system’s 1997 sanitary survey. Additionally, the water system should contact Mike Nelson of Panhandle Health to arrange for testing of the well to determine if it is influenced by surface water. The well’s source water assessment area should be considered when siting new waste disposal systems, roads and buildings. Lastly, the water system should draw up a contingency plan that outlines emergency response activities and identifies an alternative source of water should one become necessary. Partnerships with state and local agencies and industry groups should be established and are critical to success. Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing drinking water protection strategies, please contact Melinda Harper at the Idaho Rural Water Association 1-800-962-3257 DEQ at (208) 769-1422.

Websites:

www.deq.state.id.us

www.idahoruralwater.com

The final scores for susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Ground Water Final Susceptibility Scoring

0-5 = Low Susceptibility

6-12 = Moderate Susceptibility

> 13 = High Susceptibility

1. System Construction		SCORE			
Drill Date	11/25/1992				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	1997			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		4			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		3			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES*	NO	NO	NO	YES
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	1	0	0	2
(Score = # Sources X 2) 8 Points Maximum		2	0	0	4
Sources of Class II or III leachable contaminants or	YES	1	0	0	
4 Points Maximum		1	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		3	0	0	4
Cumulative Potential Contaminant / Land Use Score		3	0	0	4
4. Final Susceptibility Source Score		8	7	7	9
5. Final Well Ranking		Moderate	Moderate	Moderate	High

*Source automatically scored high in this category due to the presence of this contaminant within the well's sanitary setback of 50'

POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (IDEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100-year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by IDEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.